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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,181	10/28/2003	Susumu Murakami	0951-0129P	2757
2292	7590	07/26/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			KOHNER, MATTHEW J	
			ART UNIT	PAPER NUMBER
			3653	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/694,181	Applicant(s) MURAKAMI ET AL.	
	Examiner Matthew J. Kohner	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4, 6, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Further, in regard to claims 3, 4, 17 and 18, Applicant has claimed “operations bringing respective finger bodies into and out of abutting engagement...” This is a method step in an apparatus claim and is improper. Further, it is unclear what is meant by the terms “mutually” and “independently.”

Further, in regard to claim 6, it is unclear what applicant is claiming. It is unclear how the support component could be disposed in more than one location.

The claims are examined as best understood.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,205,316 to Iida (*hereinafter* "Iida") in view of US Patent No. 3,918,702 to Mihalik et al. (*hereinafter* "Mihalik").

Iida discloses a paper separator comprising:

- one or more paper-separating finger bodies (36), provided at or near one or more upstream ends in one or more paper transport directions of at least one or more of the paper-separating finger bodies (82);
- one or more guide members (37b), provided at or near one or more downstream ends in one or more paper transport directions of at least one of the paper-separating finger bodies, and capable of touching so as to guide one or more sheets of paper which has or have separated from at least one or more photosensitive bodies; and
- one or more support components (it is inherent that the shaft 81 is not floating in midair, but rather attached to a support component) pivotably supporting at least one or more of the paper-separating finger bodies so as to impart one or more restoring forces thereto urging at least one of the paper-separating finger bodies to bring at least one or more of the paper-separating finger bodies into abutting engagement with at least one or more photosensitive bodies, so as to, when at least one of the guide member or members is touching at least one of the sheet or sheets of paper, cause at least one of the finger bodies to at least partially overcome one or more restoring forces produced by the weight of at least a portion of at least one of the paper-separating finger bodies and back off from at least one or more photosensitive bodies (see also Fig. 4 and 5).

Iida does not disclose two features.

First, Iida does not disclose the finger body is brought into contact with the photosensitive body under the force of finger body's own weight. Instead, Iida discloses a spring which urges the tip into contact with the roller. However, the spring constant of the spring must be small, since a piece of paper being transported through the system has enough force to overcome the urging force of the spring and move the tip out of contact with the roller. Further, it is known in the art to use the weight of the finger body to bias the finger into contact with the roller (see Mihalik Fig. 1). Therefore, Examiner feels it would be obvious to one of ordinary skill in the art to modify Iida so as to remove the spring and merely use the weight of the lug to allow the tip to contact the roller, as taught by Mihalik, since the removal of the spring provides a simpler device in that it has fewer parts.

Secondly, Iida does not disclose the separator abutting one or more photosensitive bodies. Instead, Iida abuts a fusing roller (12). Mihalik teaches that it is known to use a separator (4) for stripping papers from photosensitive bodies. It would have been obvious to one of ordinary skill in the art to use Iida's separator with a photosensitive body as taught by Mihalik, in order to prevent smudging (col. 2, lines 25-30). This is important, since in a paper coming out of the image transfer process, the image transferred to the paper has yet to be fused to the paper and therefore is susceptible to smudging (see e.g. Mihalik col. 2, lines 40 *et seq.*).

In regard to claim 2, see Iida, Fig. 1.

In regard to claims 3, 4, 17 and 18, Iida discloses a plurality of separators (col. 4, lines 15-18).

In regard to claim 5, Iida discloses shaft (81).

In regard to claim 6, see Fig. 1.

In regard to claim 9, Iida discloses a guide member in the shape of a wheel, but not a spur. Mihalik teaches the use of a spur (14) for guiding sheets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a spur such as disclosed by Mihalik in place of the wheel used by Iida. There is motivation to use a spur since a spur is used to prevent smudging (see Mihalik col. 4, lines 40 *et seq.*), which is Iida's objective when he replaces the corner (16a) with a wheel (37b).

Claims 10-14, 19 and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Iida in view of Mihalik and further in view of US Patent No. 4,369,719 to Shigenobu et al. (*hereinafter* "Shigenobu").

In regard to claims 10, 11, and 12, Iida discloses paper-separating finger bodies (82), which prevent the sheet from electrostatically clinging to the roller. Iida does not specifically disclose the material from which fingers are made nor if they are coated with antistatic coating. Shigenobu it is known in the art to provide guide members with antistatic coating (see Shigenobu col. 4, lines 40 *et seq.*). It would be obvious to one of ordinary skill in the art to use an antistatic coating or antistatic material in the guide member of Iida, as taught by Shigenobu, since it would provide lower surface resistivity and therefore lead to dissipation of the charge (see e.g. *Id.* at col. 4, lines 20 *et seq.*). This is important since once the paper is stripped from the photosensitive drum by the finger, electrostatic clinging of the paper to the stripper itself should also be avoided to ensure a smooth transfer of the sheet to the fuser. Further, as disclosed by Shigenobu, without the antistatic coating static charge would accumulate which would lead to

disturbance of the transferred image especially since the image has not yet been fused to the paper by the fixing roller.

In regard to claims 13, 14, 19 and 20, Shigenobu discloses the surface resistance of the guide with the coating is $10^6\Omega$ - $10^9\Omega$ (*Id.* at col. 4, line 31). Further, the coating provides charge dissipation (*Id.* at col. 4, line 23).

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iida in view of Mihalik and further in view of US Patent No. 4,876,577 to Ogura et al. (*hereinafter* “Ogura”).

Iida does not specifically disclose a cartridge containing the paper separator. Ogura teaches that it is very well known in the art to use cartridges containing the image transferring or fusing elements with separators in a xerographic system. Cartridges are used for easy removal and replacement of the elements, since only the cartridge has to be replaced rather than each element in the cartridge (see Ogura col. 1, lines 20 et seq.). Ogura discloses a cartridge unit (7) with a paper separator (4). It would be obvious to one of ordinary skill in the art to use a cartridge containing Iida's separator, as taught by Ogura, because of the ease of replacement provided by cartridges.

Response to Amendment / Arguments

Applicant has amended the claims to overcome the 112 rejection regarding the confusion between the paper-separating finger bodies and the paper separating fingers. However, the amendments do not overcome the other 112 rejections in the previous office action.

Applicant has argued that Iida does not disclose, “one or more support components pivotably supporting at least one or more of the paper separating fingers so as to impart one or more restoring forces thereto urging at least one of the paper-separating fingers to, under the force of its own weight, bring at least one or more of the finger bodies into abutting engagement with at least one or more photosensitive bodies ...” Applicant has argued that Iida discloses a spring (18) which urges the tip (82) into contact with the roller (12). Therefore, Iida does not disclose that the paper-separating fingers contact the roller under the force of its own weight. Examiner is persuaded that Iida does not disclose the paper-separating fingers contacting the roller under the force of its own weight. However, the spring constant of the spring must be small, since a piece of paper being transported through the system has enough force to overcome the urging force of the spring and move the tip out of contact with the roller. Further, it is known in the art to use the weight of the finger body to bias the finger into contact with the roller (see e.g. Mihalik). Therefore, Examiner feels it would be obvious to one of ordinary skill in the art to remove the spring and merely use the weight of the lug to allow the tip to contact the roller. Further, there is motivation to use merely the weight of the finger body since the removal of the spring would provide a simpler device in that it has fewer parts. Since the Examiner has changed positions in view of Applicant’s arguments, this action is non-final.

Finally, Applicant has argued that Mihalik fails to disclose that the finger body is urged to the roller by the weight of the finger body. Examiner disagrees since the counter weight in Mihalik is positioned within the finger body and therefore is considered part of the finger body.

Allowable Subject Matter

Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,239,349 to Hoover et al., demonstrate that the idea of "cartridges" applies not only to image transfer drums with separating fingers (Ogura), but also to fuser rollers with separating fingers. Therefore, the fact that Iida is directed to a fuser roller would not prevent the one of ordinary skill in the art from recognizing the obvious of the concept.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Kohner whose telephone number is 571-272-6939. The examiner can normally be reached on Mon-Fri 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on 571-272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3653

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew J. Kohner
Examiner
Art Unit 3653

mjk



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SUPERVISORY PATENT EXAMINER